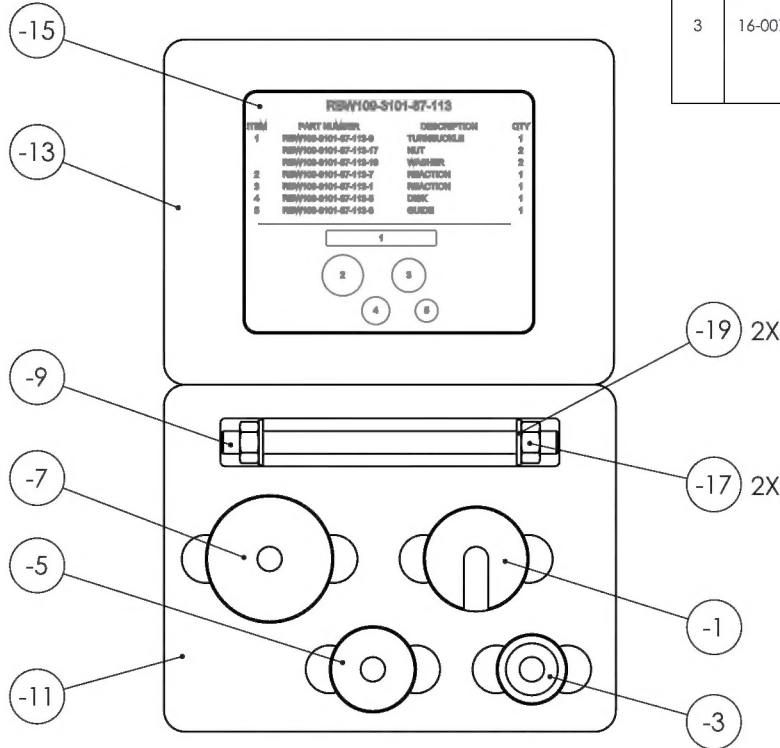


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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	15-0283	-1 CH'D ENGRAVE NOTE WAS ENGRAVE RBW109-3101-87-103 IS ENGRAVE P/N. ADDED 4142 Q&T TO MATERIAL CALL OUT. -3 CH'D ENGRAVE NOTE WAS ENGRAVE RBW109-3101-87-103 IS ENGRAVE P/N. ADDED 4142 Q&T TO MATERIAL CALL OUT. -5 CH'D ENGRAVE NOTE WAS ENGRAVE RBW109-3101-87-107 IS ENGRAVE P/N. ADDED 4142 Q&T TO MATERIAL CALL OUT. -7 CH'D ENGRAVE NOTE WAS ENGRAVE RBW109-3101-87-109 IS ENGRAVE P/N. ADDED 4142 Q&T TO MATERIAL CALL OUT. -15 CORRECTED P/N'S ON PLACARD WAS RBW109-3101-87-113-XX IS RBW109-3101-87-113-17, WAS RBW109-3101-87-113-XX IS RBW109-3101-87-113-19.	9/1/2015	RJC	JAG
3	16-0077	UPDATED TO NEW STANDARD. -1, -3, -5, -7 CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416, TYPE II, CLASS II IS ZINC PLATE ASTM B633 TYPE I SC 2. CH'D MAT'L WAS 4140 Q&T/4142 Q&T IS 4140/4142. ADDED HEAT TREAT RC 28-34. -9 ADDED FINISH AND SPEC. -11 CH'D DIMS WAS 2X 1.30 IS 6X 1.30, WAS 2X 3.60 IS 6X 3.60. DELETED DIM 4X R.44. ADDED DIMS .87, 3.53, 3.54, 5.25, 5.41, 6.93, 7.60, 8.40, 4X 45°, 4X .60. -13 CH'D DIMS WAS 1.10 IS 1.07, WAS 5.00 IS 5.06, WAS 1.69 IS 1.66, WAS 6.00 IS 6.06, WAS R.13 IS R.28. DELETED DIM 4X R.44. ADDED DIMS 4X 45°, 4X .60. -11 & -13 CH'D B/O REF WAS I.R. SPECIALTY IS (CASE SOLUTIONS). CH'D MAT'L WAS Y-20 BLACK IS ETHAFOAM 220, BLACK. -11, -13, -15 CH'D TITLE BLOCK TOLERANCES WAS ± .005 IS ± .010, WAS ± .01 IS ± .03. ADDED DART PLACARD RB41011.	7/15/2016	DEW	SM



NOTE:  
REF. AGUSTA T/N: 109-3101-87-113.

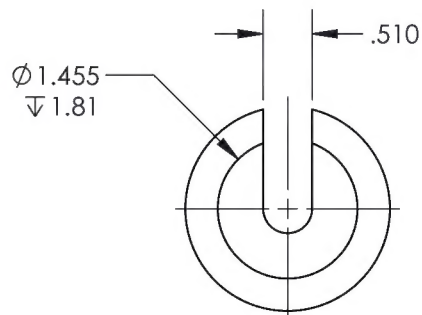
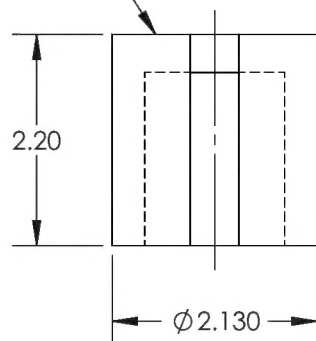
ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			-1	1	REACTION, SUPPORT PRESSURE	4140/4142		2
			-3	1	GUIDE	4140/4142		3
			-5	1	DISK	4140/4142		4
			-7	1	REACTION, SUPPORT PRESSURE	4140/4142		5
			-9	1	TURNBUCKLE	STEEL	M12 X 1.75 MCMaster-CARR #99067A254 (MODIFIED)	6
		B/O	-11	1	BOTTOM TOOL CUSHION	ETHAFOAM 220, BLACK	9.41 X 7.23 X 2.93 (CASE SOLUTIONS)	7
		B/O	-13	1	TOP TOOL CUSHION	ETHAFOAM 220, BLACK	9.37 X 7.19 X 1.19 (CASE SOLUTIONS)	8
			-15	1	PLACARD	PLASTIC		9
		B/O	-17	2	NUT	STEEL	M12 X 1.75 (MCMaster-CARR #92497A500)	1
		B/O	-19	2	WASHER	STEEL	M12 (MCMaster-CARR #91455A150)	1
		B/O	-21	1	CASE	PLASTIC	PELICAN #APP-1200-E BLACK	N/S
		B/O		1	DART PLACARD	ALUMINUM	RB41011	N/S

DART AEROSPACE			
TITLE TOOL ASSY, M/R GRIP BUSHINGS REM/INSTL			
DWG NO. RBW109-3101-87-113			REV 3
MAT'L		UNLESS OTHERWISE SPECIFIED	
HEAT TREAT		DIMENSIONS ARE IN INCHES	
FINISH		.XXX ± .005 FRACTIONS ± 1/8	
SPEC		.XX ± .01 ANGLES ± 5°	
DRAWN BY: GILBERT		.X ± .1 SURFACES = 125✓	
CHECKED: CLOUGH		1. BREAK ALL SHARP EDGES	
OPPS APPR: ANDERSON		.015 x 45° OR .015R	
QA APPR: LINDSAY		2. DIMENSIONAL LIMITS APPLY	
APPROVED: MACKOVJAK		AFTER PLATING	
SCALE 1:4		3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
DATE 2/25/2014		USED ON MODEL	
		AW109, AW119	
		SHEET 1 OF 9	

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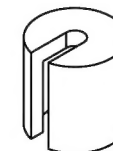
REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	15-0283	-1 CH'D ENGRAVE NOTE WAS ENGRAVE RBW109-3101-87-103 IS ENGRAVE P/N, ADDED 4142 Q&T TO MATERIAL CALL OUT.	9/1/2015	RJC	JAG
3	16-0077	-1 CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416, TYPE II, CLASS II IS ZINC PLATE ASTM B633 TYPE 1 SC 2. CH'D MAT'L WAS 4140 Q&T/4142 Q&T IS 4140/4142. ADDED HEAT TREAT RC 28-34.	7/15/2016	DEW	SM

ENGRAVE P/N



(1)

REACTION, SUPPORT PRESSURE

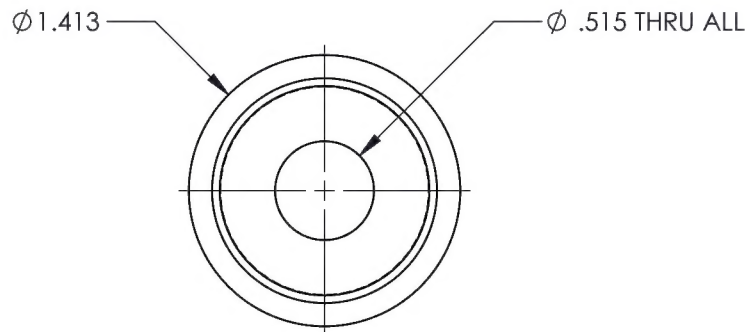
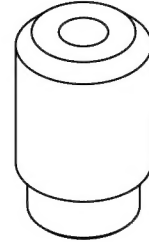
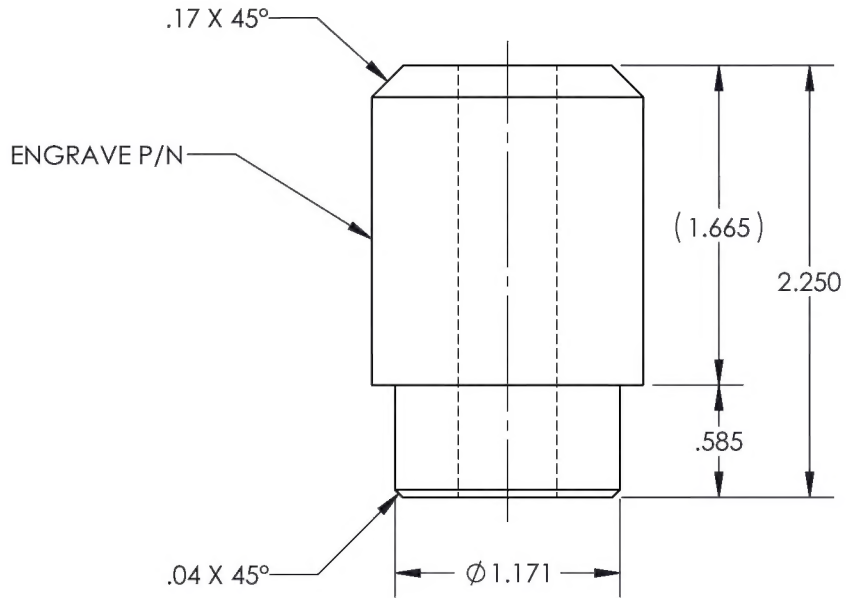


<b>DART AEROSPACE</b>	
TITLE TOOL ASSY, M/R GRIP BUSHINGS REM/INSL	
DWG NO. RBW109-3101-87-113-1	REV 3
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED
HEAT TREAT RC 28-34	DIMENSIONS ARE IN INCHES
FINISH ZINC PLATE	.XXX ± .005 FRACTIONS ± 1/8
SPEC ASTM B633 TYPE I SC 2	.XX ± .01 ANGLES ± 5°
DRAWN BY: GILBERT	.X ± .1 SURFACES = 125°
CHECKED: CLOUGH	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: MACKOVJAK	AFTER PLATING
SCALE 1:2	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 2/24/2014	USED ON MODEL
SHEET 2 OF 9	AW109, AW119

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# REVISIONS

REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	15-0283	-3 CH'D ENGRAVE NOTE WAS ENGRAVE RBW109-3101-87-103 IS ENGRAVE P/N, ADDED 4142 Q&T TO MATERIAL CALL OUT.	9/1/2015	RJC	JAG
3	16-0077	-3 CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416, TYPE II, CLASS II IS ZINC PLATE ASTM B633 TYPE I SC2. CH'D MAT'L WAS 4140 Q&T/4142 Q&T IS 4140/4142. ADDED HEAT TREAT RC 28-34.	7/15/2016	DEW	SM



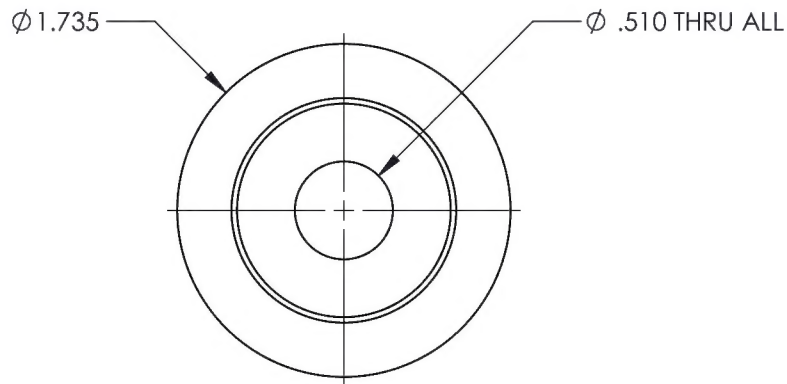
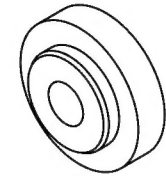
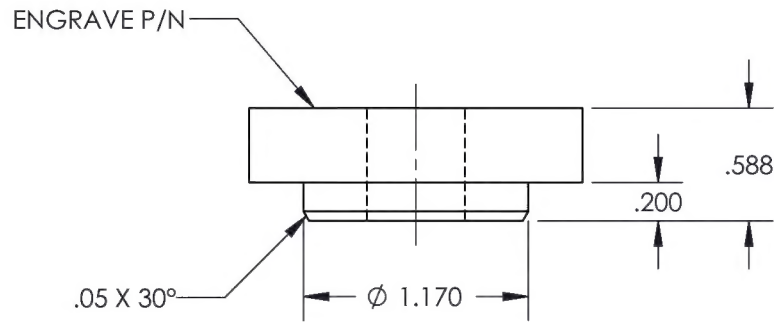
(-3)

GUIDE

<b>DART AEROSPACE</b>	
TITLE TOOL ASSY, M/R GRIP BUSHINGS REM/INSTL	
DWG NO. RBW109-3101-87-113-3	REV 3
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED
HEAT TREAT RC 28-34	DIMENSIONS ARE IN INCHES
FINISH ZINC PLATE	.XXX ± .005 FRACTIONS ± 1/8
SPEC ASTM B633 TYPE I SC 2	.XX ± .01 ANGLES ± 5°
DRAWN BY: GILBERT	.X ± .1 SURFACES = 125°
CHECKED: CLOUGH	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: MACKOVJAK	AFTER PLATING
SCALE 1:1	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 2/24/2014	USED ON MODEL
SHEET 3 OF 9	AW109, AW119

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	15-0283	-5 CH'D ENGRAVE NOTE WAS ENGRAVE RBW109-3101-87-107 IS ENGRAVE P/N, ADDED 4142 Q&T TO MATERIAL CALL OUT.	9/1/2015	RJC	JAG
3	16-0077	-5 CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416, TYPE II, CLASS II IS ZINC PLATE ASTM B633 TYPE 1 SC 2. CH'D MAT'L WAS 4140 Q&T/4142 Q&T IS 4140/4142. ADDED HEAT TREAT RC 28-34.	7/15/2016	DEW	SM



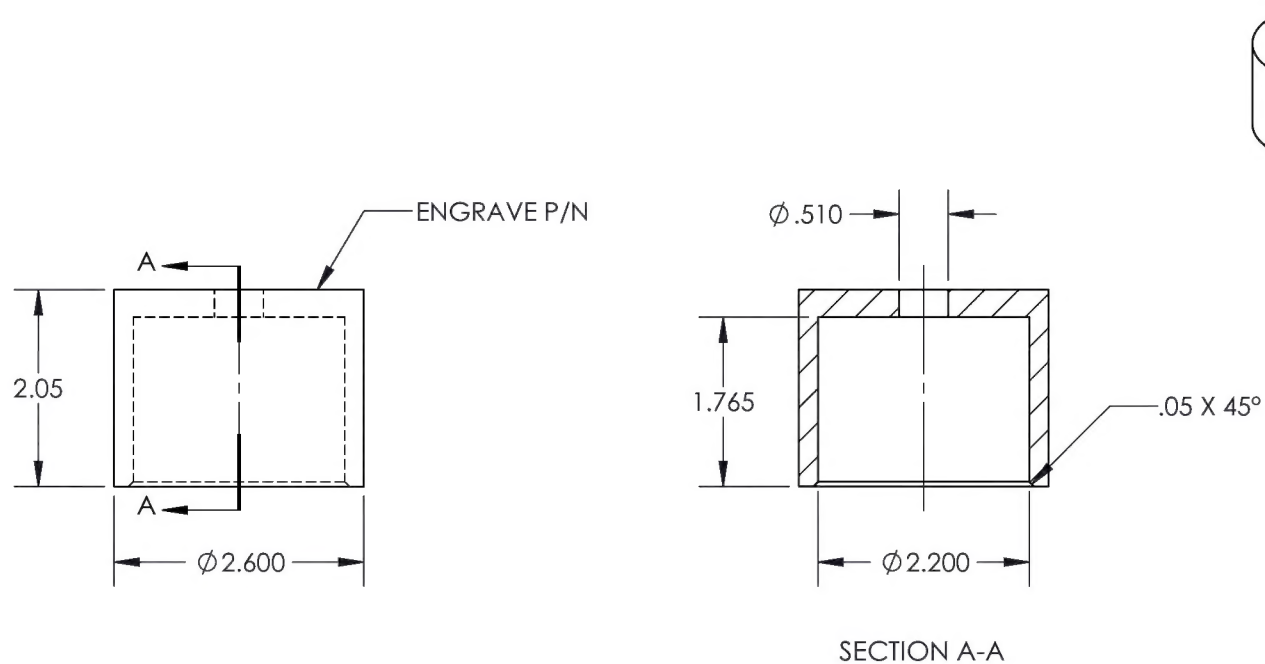
(-5)

DISK

<b>DART AEROSPACE</b>	
TITLE TOOL ASSY, M/R GRIP BUSHINGS REM/INSL	
DWG NO. RBW109-3101-87-113-5	REV 3
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED
HEAT TREAT RC 28-34	DIMENSIONS ARE IN INCHES
FINISH ZINC PLATE	.XXX ± .005 FRACTIONS ± 1/8
SPEC ASTM B633 TYPE I SC 2	.XX ± .01 ANGLES ± 5°
DRAWN BY: GILBERT	.X ± .1 SURFACES = 125°
CHECKED: CLOUGH	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: MACKOVJAK	AFTER PLATING
SCALE 1:1	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 2/24/2014	USED ON MODEL
SHEET 4 OF 9	AW109, AW119

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	15-0283	-7 CH'D ENGRAVE NOTE WAS ENGRAVE RBW109-3101-87-109 IS ENGRAVE P/N, , ADDED 4142 Q&T TO MATERIAL CALL OUT.	9/1/2015	RJC	JAG
3	16-0077	-7 CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416, TYPE II, CLASS II IS ZINC PLATE ASTM B633 TYPE I SC 2. CH'D MAT'L WAS 4140 Q&T/4142 Q&T IS 4140/4142. ADDED HEAT TREAT RC 28-34.	7/15/2016	DEW	SM



SECTION A-A

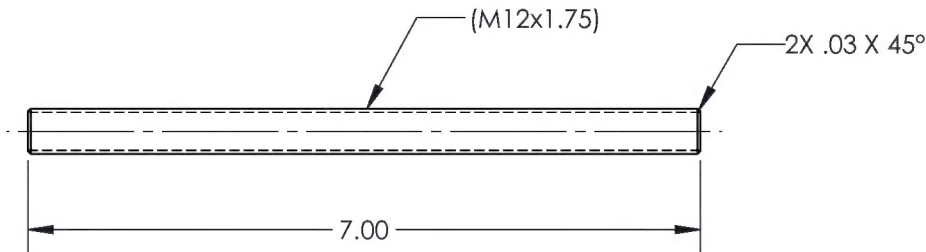
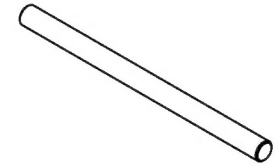
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REACTION, SUPPORT PRESSURE

<b>DART AEROSPACE</b>	
TITLE TOOL ASSY, M/R GRIP BUSHINGS REM/INSL	
DWG NO. RBW109-3101-87-113-7	REV 3
MAT'L 4140/4142	UNLESS OTHERWISE SPECIFIED
HEAT TREAT RC 28-34	DIMENSIONS ARE IN INCHES
FINISH ZINC PLATE	.XXX ± .005 FRACTIONS ± 1/8
SPEC ASTM B633 TYPE I SC 2	.XX ± .01 ANGLES ± 5°
DRAWN BY: GILBERT	.X ± .1 SURFACES = 125
CHECKED: CLOUGH	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: MACKOVJAK	AFTER PLATING
SCALE 1:2	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 2/24/2014	USED ON MODEL
SHEET 5 OF 9	AW109, AW119

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
3	16-0077	-9 ADDED FINISH AND SPEC	7/15/2016	DEW	SM



(-9)

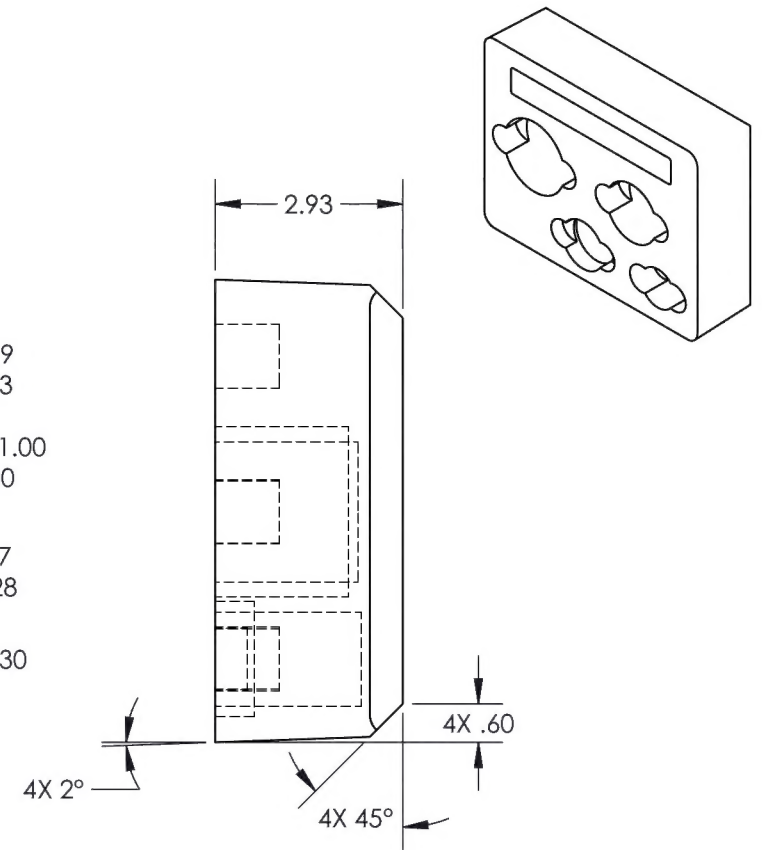
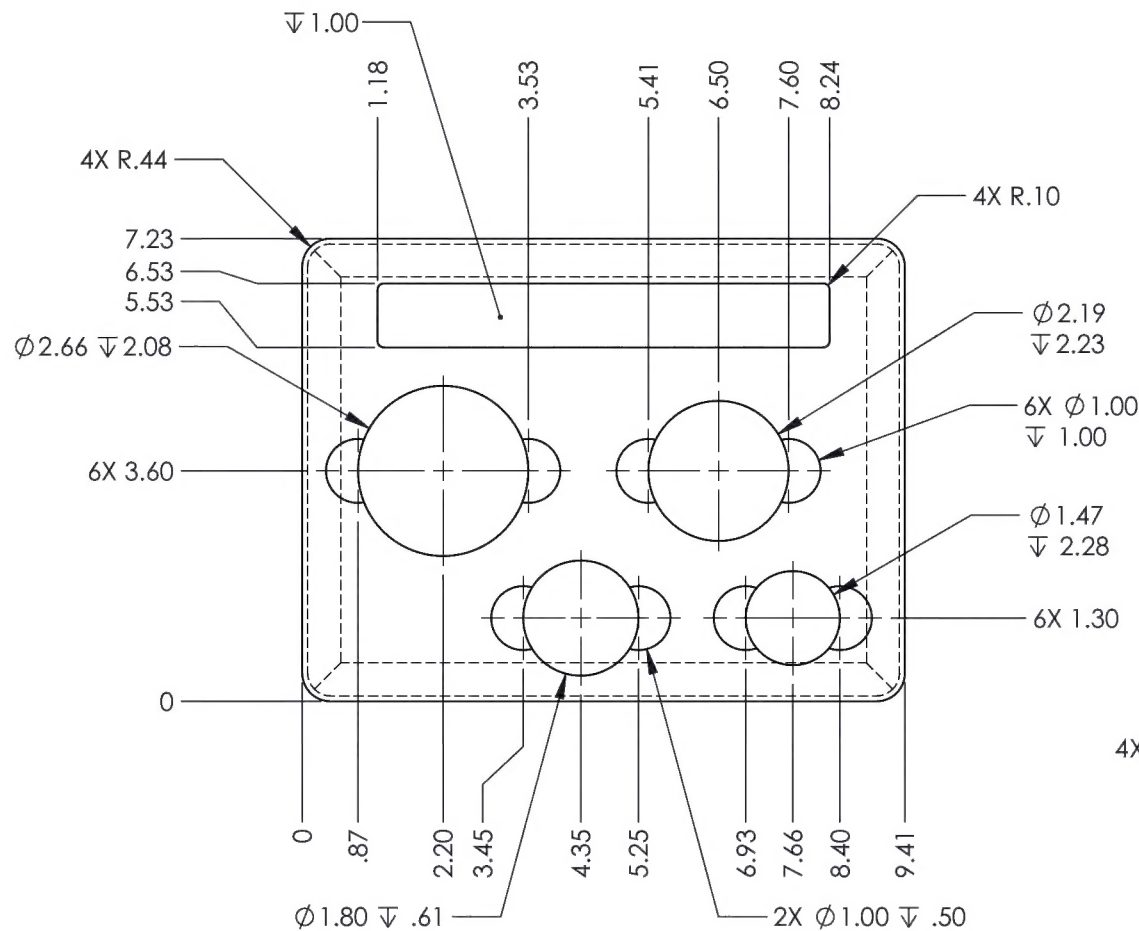
TURNBUCKLE

<b>DART</b> AEROSPACE	
TITLE TOOL ASSY, M/R GRIP BUSHINGS REM/INSTL	
DWG NO. RBW109-3101-87-113-9	REV 3
MAT'L STEEL	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH ZINC PLATE	.XXX ± .005 FRACTIONS ± 1/8
SPEC ASTM B633 TYPE I SC 2	.XX ± .01 ANGLES ± 5°
DRAWN BY: GILBERT	.X ± .1 SURFACES = 125°
CHECKED: CLOUGH	1. BREAK ALL SHARP EDGES
OPPS APPR: ANDERSON	.015 x 45° OR .015R
QA APPR: LINDSAY	2. DIMENSIONAL LIMITS APPLY
APPROVED: MACKOVJAK	AFTER PLATING
SCALE 1:2	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
DATE 2/24/2014	USED ON MODEL
SHEET 6 OF 9	AW109, AW119



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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
3	16-0077	-11 CH'D TITLE BLOCK TOLERANCES WAS $\pm .005$ IS $\pm .010$ , WAS $\pm .01$ IS $\pm .03$ . CH'D MAT'L WAS Y-20 BLACK IS ETHAFOAM 220, BLACK. CH'D DIMS WAS 2X 1.30 IS 6X 1.30, WAS 2X 3.60 IS 6X 3.60. DELETED DIM 4X R.44. ADDED DIMS .87, 3.53, 3.54, 5.25, 5.41, 6.93, 7.60, 8.40, 4X 45°, 4X .60.	7/15/2016	DEW	SM



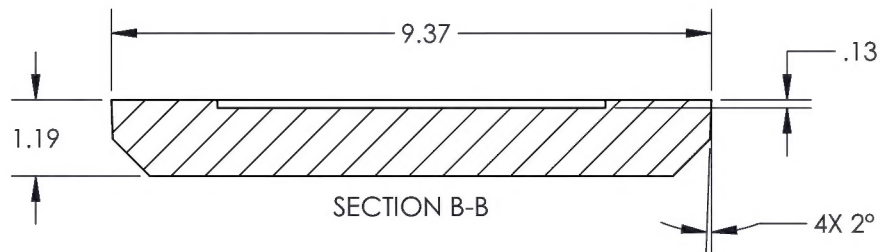
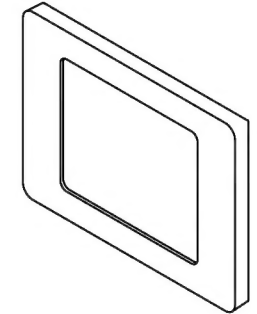
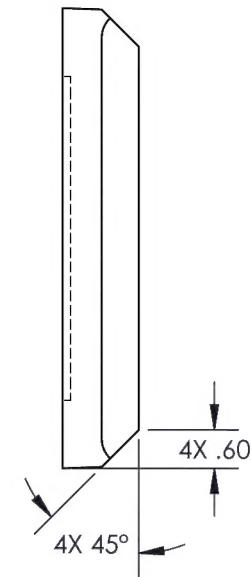
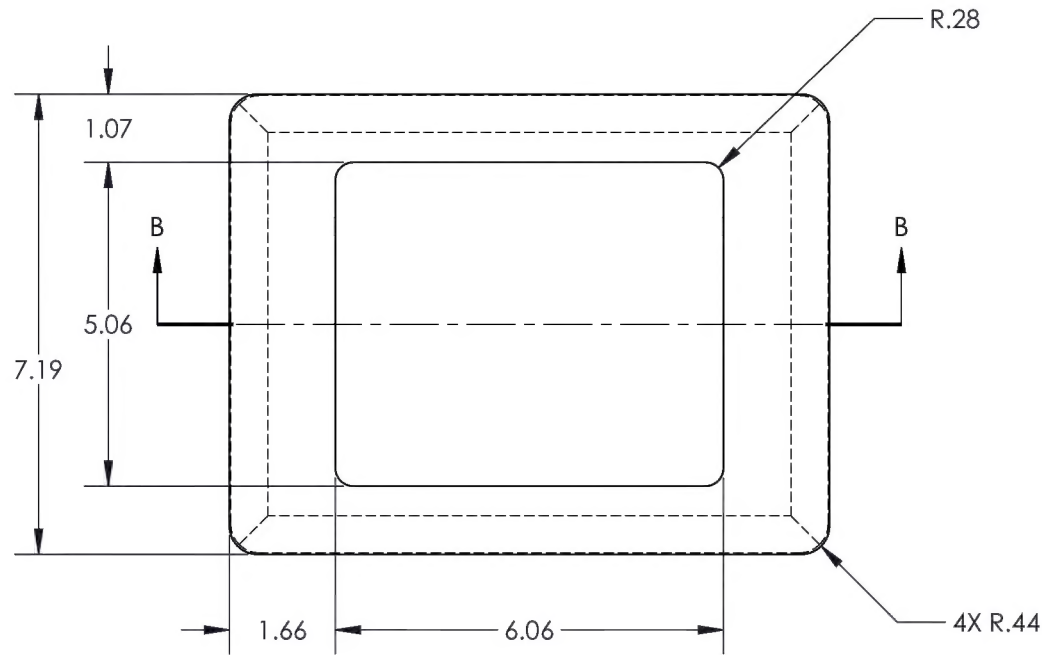
(-11)

BOTTOM TOOL CUSHION

<b>DART AEROSPACE</b>	
TITLE TOOL ASSY, M/R GRIP BUSHINGS REM/INSTL	
DWG NO. RBW109-3101-87-113-11	REV 3
MAT'L ETHAFOAM 220, BLACK	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
.XXX $\pm .010$ FRACTIONS $\pm 1/8$	
.XX $\pm .03$ ANGLES $\pm 1^\circ$	
.X $\pm .1$ SURFACES = 125	
SPEC 1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
DRAWN BY: GILBERT	USED ON MODEL
CHECKED: CLOUGH	AW109, AW119
OPPS APPR: ANDERSON	
QA APPR: LINDSAY	
APPROVED: MACKOVJAK	
SCALE 1:3	DATE 2/25/2014
SHEET 7 OF 9	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
3	16-0077	-13 CH'D TITLE BLOCK TOLERANCES WAS $\pm .005$ IS $\pm .010$ , WAS $\pm .01$ IS $\pm .03$ . CH'D DIMS WAS 1.10 IS 1.07, WAS 5.00 IS 5.06, WAS 1.69 IS 1.66, WAS 6.00 IS 6.06, WAS R.13 IS R.28. DELETED DIM 4X R.44. ADDED DIMS 4X 45°, 4X .60.	7/15/2016	DEW	SM



(-13)

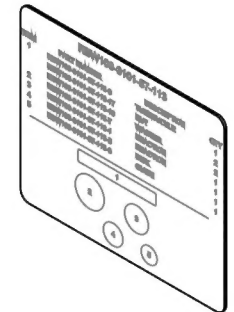
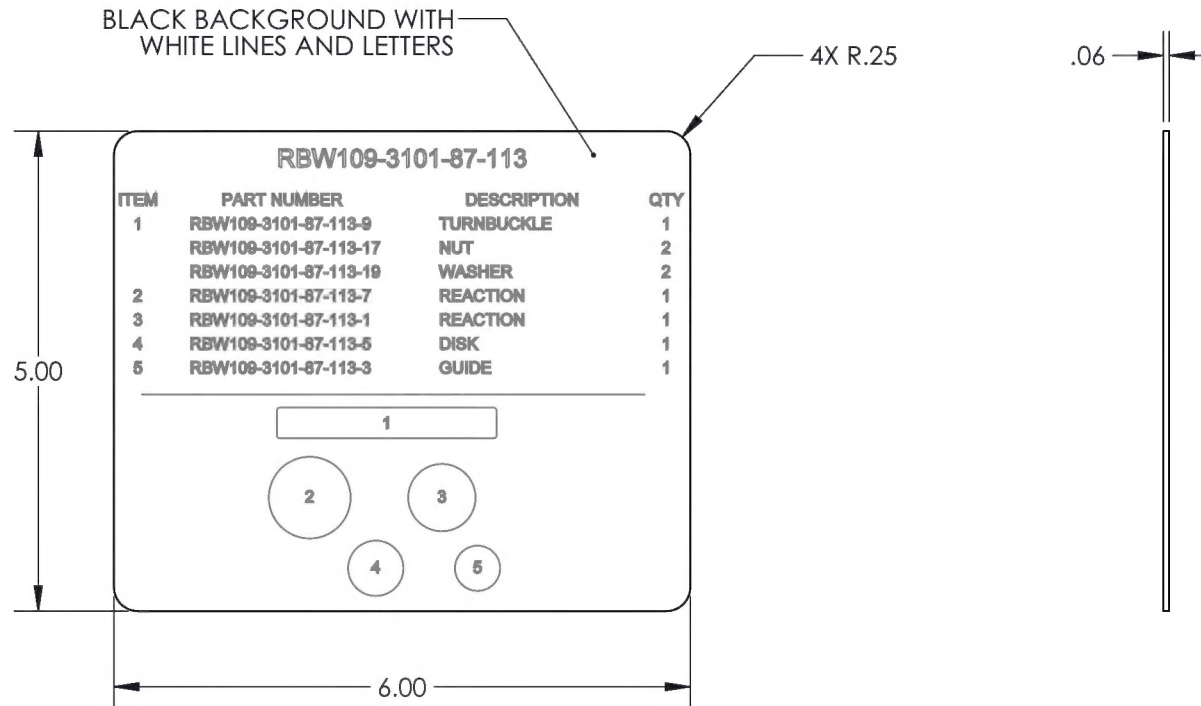
TOP TOOL CUSHION

<b>DART AEROSPACE</b>	
TITLE TOOL ASSY, M/R GRIP BUSHINGS REM/INSTL	
DWG NO. RBW109-3101-87-113-13	REV 3
MAT'L ETHAFOAM 220, BLACK	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TREAT .XXX $\pm$ .010 FRACTIONS $\pm$ 1/8	
FINISH .XX $\pm$ .03 ANGLES $\pm$ 1°	
SPEC .X $\pm$ .1 SURFACES = 125° ✓	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
DRAWN BY: GILBERT	USED ON MODEL
CHECKED: CLOUGH	AW109, AW119
OPPS APPR: ANDERSON	
QA APPR: LINDSAY	
APPROVED: MACKOVJAK	
SCALE 1:3	DATE 2/25/2014
SHEET 8 OF 9	



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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	15-0283	-15 CORRECTED P/N'S ON PALCARD WAS RBW109-3101-87-113-XX IS RBW109-3101-87-113-17, WAS RBW109-3101-87-113-XX IS RBW109-3101-87-113-19.	9/1/2015	RJC	JAG
3	16-0077	-15 CH'D TITLE BLOCK TOLERANCES WAS $\pm .005$ IS $\pm .010$ , WAS $\pm .01$ IS $\pm .03$ .	7/15/2016	DEW	SM



(-15)  
PLACARD

<b>DART AEROSPACE</b>	
TITLE TOOL ASSY, M/R GRIP BUSHINGS REM/INSTL	
DWG NO. RBW109-3101-87-113-15	REV 3
MAT'L PLASTIC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT	.XXX $\pm .010$ FRACTIONS $\pm 1/8$
FINISH	.XX $\pm .03$ ANGLES $\pm 1^\circ$
SPEC	.X $\pm .1$ SURFACES = 125 <input checked="" type="checkbox"/>
DRAWN BY: GILBERT	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: MACKOVJAK	AW109, AW119
SCALE 1:2	DATE 2/25/2014
SHEET 9 OF 9	